DOCUMENT RESUME

ED 169 092 TM 008 486

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TITLE The Measurement of Non-Directive Supervisory Behavior in Education: A Factor-Analytic Validity Study.
PUB DATE Mar 78
NOTE 15p.; Paper presented at the Annual Meeting of the American Educational Research Association (62nd, Toronto, Ontario, Canada, March 27-31, 1978)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Behavior Rating Scales; Factor Structure; Supervisors; *Supervisory Methods; Teacher Attitudes; *Teacher Supervision; Test Reliability; *Test Validity
IDENTIFIERS *Nondirective Supervisory Behavior Scale

ABSTRACT

Using the constructs of Rogers, Ellis, and Barrett-Lennard, a twenty-five item Likert-type instrument, the Non-Directive Supervisory Behavior Scale, was developed to measure directive vs. non-directive supervisory behavior. One hundred ninety-five in-service teachers, randomly selected from two school districts, completed the twenty-five item questionnaire describing the behavior of their supervisors during supervisory conferences. The data were subjected to factor analysis and subsequent alpha-internal reliability estimates. Results indicated that the instrument is a one-factor or one-scale measure of supervisor non-directive behavior, with eleven of the questionnaire's twenty-five items comprising the scale. Alpha-internal reliability was estimated at .83. An estimate of the construct validity was based on the correlation between this scale and the pre-established Barrett-Lennard Relationships Inventory; both were administered concurrently to twenty-three teachers. Correlation was .67, corrected for attenuation at .80. The scale and supporting data are attached. (Author/CP)

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THE MEASUREMENT OF NON-DIRECTIVE SUPERVISORY BEHAVIOR IN EDUCATION: A FACTOR-ANALYTIC VALIDITY STUDY

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TM008 486

AERA Annual Meeting March, 1978 Toronto

Session #27.25

The Measurement of Non-Directive Supervisory Behavior in Education: A Factor-Analytic Validity Study

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Problem

The problem of teacher supervision, although long neglected in educational research, is becoming increasingly important as demands for educational accountability and consequent state and locally mandated teacher evaluation programs increase. The decline in staff turnover resulting from the combination of recent declines in student enrollments, inflation and a tightened job market place an urgency on the need for effective supervisory strategies and practices as an integral component of the in-service re-education of teachers. Glenys Unruh has admonished that if educational supervision does not rise to this challenge, other agencies will fill the gap through legislation, regulations, competency tests, etc. (1977, p.563).

The effectiveness of various strategies and practices during supervisory conferences and the identification of significant supervisor-teacher correlates associated with such effectiveness have been the subject of a growing amount of research in the last decade (Blumberg, 1974, & others 1965, 1968, 1970: Sirois & Gable, 1977; Weller, 1972; others). One of the persistent obstacles to such research has been the lack of reliable instruments with which to measure the covariates in the supervisory process.

Theoretical Framework/Constructs

One supervisory covariate which is receiving a considerable amount of attention (in espoused theories if not in hard research) is the behavior style or

strategies of the supervisor during supervisory conference. This covariate is usually defined by the construct of non-directive vs. directive supervisory behavior following the concepts of counseling behavior espoused by Carl Rogers (1962, 1967).

Some supervisory theorists have advocated the direct application of Rogers' non-directive techniques by educational supervisors (Cogan, 1973; Dussalt, 1970; Mosher, 1964). Others have espoused the non-directive philosophy in other forms such as "didactic vs. experiential mode", "indirect communication","controlling vs. facilitating", etc. (Alfonso, et al, 1975; Blumberg, 1974; Sergiovanni & Starrett, 1971).

Some prior attempts have been made to define the non-directive supervisory behavior construct operationally through the development of questionnaire-type instruments in which teachers describe the conferencing behavior of their supervisors (Blumberg & Amidon, 1965). To date, none of these efforts have produced a reliable instrument with which to measure the non-directive construct in educational supervision. Educational researchers have tended to eschew the use of an alternative instrument, the Barrett-Lennard Relationships Inventory (1962). This avoidance appears to be due to the length and complexity of the instrument and to the fact that it is designed to analyze in particular the therapist/client diad.

Methodology

Instrumentation: Using the component definitions of the non-directive or client-centered counseling technique as presented by Rogers (1961, 1962, 1967), the "directive" constructs of Ellis (1971, 1973), and previous work of Barrett-Lennard, a twenty-five item questionnaire was developed to measure the construct of non-directive supervisory behavior during supervisory conferences with teachers. The design of the questionnaire (see Figure 1) asks teachers to describe the

behavior of their supervisors (after a number of supervisory conferences) on the twenty-five item Likert-type scale.

Insert Figure 1

Sample: The questionnaire was administered concurrently with the lengthier Barrett-Lennard instrument to 195 in-service teachers each involved to varying degrees in planned programs of supervision. These teachers were selected randomly from two non-random populations (i.e. two different school districts).

Analysis: The resulting data were subjected to factor-analysis to determine appropriate factor loadings and also to determine the proper scoring procedures (if any) for the instrument. An alpha-internal reliability analysis was performed to determine the reliability of the resultant scale.

Results

The means and standard deviations of the sample for each stem are reported in Table 1.

Insert Table 1

The imcomplete components loading matrix of the factor-analysis revealed six factors for the data. Table 2 reports the intercorrelations of the primary axes of the six factors resulting from the analysis.

Insert Table 2

Table 2 reveals that factors one and six are substantially related to each other (-.45) and, therefore, are not orthogonal. Consequently, it was decided that the obliquimax rotation of factors would be used in any further analyses. Table 3 presents the obliquimax factor loadings of each of the six factors for

for each of the twenty-five stems.

Insert Table 3

Inspection of the factor loadings reported in Table 3 reveal that the Non-Directive Supervisory Behavior Scale is a one-factor or one-scale instrument with eleven of the twenty-five original items comprising the non-directive scale.

Scoring of the scale, as illustrated in Table 4, is relatively simple, first reverse scoring appropriate items, then totalling the Likert values for each of the eleven items comprising the scale. The remaining stems remain in the instrument as filler items to retain the instrument's administration replicability.

Insert Table 4

A reliability estimate of .83 resulted from the alpha-internal reliability analysis. An estimate of the construct validity can be derived from the simple correlation between the Non-Directive Supervisory Behavior Scale and the pre-established Barrett-Lennard Relationships Inventory which were administered concurrently. This correlation is .67 in its raw form and .80 when corrected for attenuation of the two instruments (Ferguson, 1966). These data provides considerable evidence for both the reliability (.83) and the validity (.80) of the Non-Directive Supervisory Behavior Scale.

Conclusions

The Non-Directive Supervisory Behavior Scale appears to be a reliable and valid measure of the construct of non-directive supervisory behavior in educational supervisory conferences. Research in the area of educational supervision has long needed a reliable measure of this construct.

Educational researchers are advised to use the instrument with confidence for the testing of hypotheses relating to the behavior of supervisors in educational settings. This may include conferencing behavior, facilitating behavior and other helping and intervention behavior on the part of supervisors.

Practicing supervisors may find the instrument valuable as a source of feedback on their supervisory behaviors or styles. In a recent study by this researcher, it was concluded that sufficient evidence exists to suggest that all educational supervisors have as part of their repertoire of skills some background in non-directive intervention and conferencing techniques (Sirois, 1978).

Only through continued research and critical practice can educational supervisors rise to the challenge of effective teacher in-service re-education through supervision. The Non-Directive Supervisory Behavior Scale is offered as a tool to help supervisors meet this challenge.

Figure 1

PERCEPTIONS OF SUPERVISORY BEHAVIOR DURING SUPERVISORY CONFERENCES

The statements below describe possible ways a supervisor might act during a supervisory conference with teachers. For each statement, indicate the degree to which that statement describes your supervisor during supervisory conferences which you have had with him or her. A (1) means that the statement does not describe your supervisor at all, while a (5) means that the statement describes your supervisor very much. Circle the appropriate number for each statement. Please answer every item.

(1) not at all; (2) rarely; (3) sometimes; (4) often; (5) very much

1.	Suggests that you do things in specific ways.	1	2	3	4	5
2.	Is interested in letting you know that he or she approves of your teaching behavior regardless of his or her opinions about teaching methods.	1	2	3	4	5
3.	Asks for your opinions about specific teaching behaviors of yours.	1	2	3	4	5
4.	Criticizes your teaching behavior.	1	2	3	4	5
5.	Asks for your suggestions or opinions about his or her suggestions for improving your teaching.	1	2	3	4	5
6.	Doesn't go out of the way to show approval of your teaching unless your opinions about teaching are the same as his or hers.	1	2	3	4	5
7.	Challenges your opinions about teaching practices and methods.	1	2	3	4	5
8.	Discusses various teaching practices and methods with you, but doesn't express a preference for any particular method.	1	2	3	4	5
9.	Tells you exactly how to improve your teaching behavior.	1	2	3	4	5
10.	Tries to communicate to you an accurate understanding of your feelings and opinions about teaching. . . .	1	2	3	4	5
11.	Expresses opinions of current teaching practices and methods.	1	2	3	4	5

12. Makes you feel that you and he or she are working together on a problem. 1 2 3 4 5

13. When you bring up ideas during the conference, the supervisor redirects conversation to his or her agenda. 1 2 3 4 5

14. Your supervisor doen <u>not</u> try to understand how you feel about teaching. 1 2 3 4 5

15. Accepts the way you teach and encourages you to continue with your own teaching style. 1 2 3 4 5

16. Asks you non-critical questions about you teaching behavior (i.e. leaves opinions out). 1 2 3 4 5

17. Tries to change your mind about your teaching. 1 2 3 4 5

18. Makes you feel you can say anything and can express any opinions you want. 1 2 3 4 5

19. Strongly disagrees <u>or</u> strongly agrees with statements you make during conferences. 1 2 3 4 5

20. Has definite opinions of the "right way of doing things" and lets you know what they are. 1 2 3 4 5

21. Allows the conversation to follow through on ideas that you bring up. 1 2 3 4 5

22. Tells you specific things on which you should work or prctice. 1 2 3 4 5

23. Accepts and clarifies statements you make during conferences. 1 2 3 4 5

24. Doesn't forget that he or she is "the boss". 1 2 3 4 5

25. Imposes no preconceived notions of the "right way of doing things" upon you. 1 2 3 4 5

Table 1

Means and Standard Deviations of the Sample for
Each Stem of the Non-Directive Supervisory Behavior Scale

Stem	Mean	Stan. Dev.
1	2.61	1.08
2	3.80	0.96
3	3.03	1.19
4	1.67	0.76
5	2.89	1.18
6	1.75	1.01
7	1 87	0.86
8	2.98	1.00
9	2.08	1.00
10	3.36	1.09
11	3.29	0.96
12	4.16	0.99
13	1.89	1.07
14	1.57	1.04
15	4.16	0.87
16	3.21	1.00
17	1.63	0.90
18	4.02	1.10
19	2.63	1.00
20	2.41	1.24
21	3.92	0.86
22	2.84	1.03
23	3.68	0.94
24	2.52	1.35
25	3.01	1.38

N = 195

Table 2

Intercorrelation of Primary Axes

	1	2	3	4	5	6
1	1.000	-0.055	-0.346	0.250	0.024	-0.452
2		1.000	-0.237	-0.298	-0.047	0.243
3			1.000	0.070	-0.047	0.121
4				1.000	-0.041	-0.269
5					1.000	0.009
6						1.000

Table 3

Obliquimax Factor Loading Matrix

	1	2	3	4	5	6
1	--	77	--	--	--	--
2	--	--	--	--	--	-56
3	--	--	-61	--	--	--
4	--	67	--	--	--	--
5	--	--	-52	--	--	--
6	--	--	--	--	--	74
7	--	--	-43	--	--	--
8	--	--	-67	--	--	--
9	--	72	--	--	--	--
10	54	--	--	--	--	--
11	--	--	-54	--	--	--
12	75	--	--	--	--	--
13	--	--	--	--	--	44
14	-64	--	--	--	--	--
15	--	--	--	--	--	-51
16	--	--	-67	--	--	--
17	--	--	--	--	--	61
18	74	--	--	--	--	--
19	--	--	--	-57	--	--
20	--	--	--	-76	--	--
21	73	--	--	--	--	--
22	--	59	--	--	--	--
23	77	--	--	--	--	--
24	--	--	--	-71	--	--
25	--	--	--	--	80	00

Note: the original matrix was rounded to two places and multiplied by 100 for this table; only values over 40 are reported.

Table 4

Reliability Data:

N in Sample: 195
Program: FACTAN & TESTAT/UCONN Research Computer Center
Alpha-Internal Reliability Estimate: .83
Mean: 44.27
Standard Deviation: 6.57

Scoring Procedures:

Natural Score Items: 2, 10, 12, 15, 18, 21, 23.
Reverse Score Items: 6, 13, 14, 17.
Total Non-Directive score equals sum of scores for the eleven items above.

Validity:

The Sirois Non-Directive Supervisory Behavior Scale was administered to a random sample of twenty-three teachers concurrently with the Barrett-Lennard Relationships Inventory (a lengthy instrument designed to measure several constructs of non-directive counseling). Correlation of the two scales was .67, corrected for attenuation is .80.

Administration of the Scale:

Paper and pencil as per directions on scale.

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